

REMARKS

Reconsideration and further examination of this application is hereby requested. Claims 1, 2, 4, 15, 30, 32-34, and 36-39 are currently pending in the application. Claims 1, 32, and 37 have been amended.

A. The Obviousness Rejections

Claim 1, 2, 4, 5, 15, and 30-39 have been rejected under 35 U.S.C. § 103(a) as being obvious over Haluska '006 (US 4830006).

Claim 1, 2, 4, 5, 15, and 30-39 have been rejected under 35 U.S.C. § 103(a) as being obvious over Gilli '229 (US 5209229). These rejections are respectfully traversed based on the following arguments.

In order for a patent claim to be obvious, the prior art must teach or suggest each and every limitation recited in the claim. That is because the claim must be considered as a whole.

Independent claim 1 (as amended) recites the limitation that "the first phase polarity is positive" in the last line. Independent claims 32 and 37 (as amended) also recite similar limitations. These limitations are not taught or suggested by the prior art.

The Haluska '006 reference does not teach this limitation. The Examiner notes that Haluska '006 teaches that various phases can be applied for stimulation of the heart. However, Haluska

'006 does not go so far as to actually disclose specifically stimulating the heart with a biphasic waveform wherein the first phase of stimulation has a positive polarity.

The Gilli '229 reference does not teach this limitation. The Examiner notes that Gilli '229 suggests that the stimulation waveform be biphasic. However, Gilli '229 does not go so far as to actually disclose specifically stimulating the heart with a biphasic waveform wherein the first phase of stimulation has a positive polarity.

At the time of Applicant's invention, the conventional wisdom in the art held that it would not be appropriate to make the first phase of a biphasic stimulation pulse have a positive amplitude. Nothing in either of the Haluska '006 or Gilli '229 references provides a suggestion sufficient to have lead a person of ordinary skill in the art to disregard the conventional wisdom of the time.

The Examiner contends that the limitation of the first phase of the biphasic waveform being positive in polarity would have been common knowledge in the art at the time the claimed invention was made. As evidence of this the Examiner indicates the Kroll '015 (US 5534015) reference. Although Kroll '015 shows an electrical pulse having a positive-going first phase, this disclosure is in the context of a defibrillation pulse, not a

pulse phase that has a "phase amplitude is at a maximum subthreshold amplitude." See the last two lines of each of independent claims 1, 32, and 37. The objects and physical reactions desired are completely different for defibrillation than for "subthreshold" stimulation and voltage levels used are vastly different. Since defibrillation uses such large voltage amplitudes, it is not really providing "stimulation" so much as it is ensuring wholesale electrical reorganization of the heart tissue. Thus, it would not have been obvious to a person having ordinary skill in the art to apply the teachings of the configuration of the defibrillation pulse shown by Kroll '015 to a waveform with a first phase that has a "phase amplitude is at a maximum subthreshold amplitude."

For the above reasons, Applicant respectfully submits that the prior art does not establish a *prima facie* case of obviousness with respect to pending claims 1, 2, 4, 15, 30, 32-34, and 36-39.

B. Closing

In view of the above, Applicant respectfully submits that independent claims 1, 32, and 37 are patentable over the prior art of record. Applicant further submits that dependent claims 2, 4, 15, 30, 33, 34, 36, 38, and 39 are patentable, at least as being dependent from patentable independent claims, and and are

AMENDMENT UNDER 37 C.F.R. § 1.111
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PATENT APPLICATION

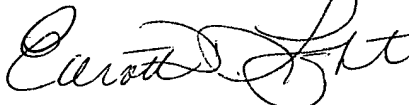
further patentable due to the additional limitations recited therein.

For the above reasons, Applicant respectfully submits that the application is in condition for allowance with claims 1, 2, 4, 15, 30, 32-34, and 36-39. If there remain any issues that may be disposed of via a telephonic interview, the Examiner is kindly invited to contact the undersigned at the local exchange given below.

The Director of the U.S. Patent and Trademark Office is authorized to charge any necessary fees, and conversely, deposit any credit balance, to Deposit Account No. 18-1579.

Respectfully submitted,

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